

SNOWTOWN WIND FARM

PROJECT PROFILE



On 12th January 2007, TrustPower Limited awarded Suzlon Energy Australia Pty Ltd the Turnkey Contract for delivery of the Snowtown Wind Farm in South Australia. The wind farm was officially opened by the Premier of South Australia in November 2008

Our Client

TrustPower Limited – a New Zealand based renewable power generator and retailer.

Turbine Type

SS88_2.1MW with 88m rotor diameter.

Project Location

Near Snowtown, 170km north of Adelaide, South Australia. The Snowtown Wind Farm site spreads more than 20 kilometres on the Hummocks and Barunga Ranges west of Snowtown, which posed many technical and logistical challenges during construction.

Project Description

The Snowtown Wind Farm comprises 47 x Suzlon S88_2.1MW wind turbines with a total installed capacity of 98.7MW. Construction commenced in April 2007 with commissioning of wind turbines finalised at the end of the third quarter of 2008.

Suzlon was the turnkey contractor responsible for the Engineering, Procurement & Construction (EPC) delivery of the entire project.



Suzlon's overall responsibilities included:

- Design and manufacture of the wind turbines
- Detailed in-house wind turbine micro-siting
- Grid dynamic studies
- Design, construction and maintenance of more than 24km of new access roads
- Design and construction of footings and hardstands for each tower
- Design, fabrication and installation of steel turbine towers
- Shipping, installation and commissioning of the turbines
- Design and installation of electrical feeder system, both below and above ground, linking the turbines to the substation
- Design and installation of 132/33kV main transformer
- Long term service and maintenance of the whole wind farm

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Key Statistics

Green energy produced by the Snowtown Wind Farm provides enough power for over 70,000 average Australian households per year.

Final output is in excess of 350GWhr of electricity each year, saving more than 345,000 tonnes of greenhouse gas emissions annually.

Wind turbines convert the energy in moving air into electrical energy. The moving air that passed through the 47 S88 wind turbines in one hour, at full production, weighs over 16,000,000 tonnes.

Payback of the “embodied energy” of the whole wind farm took approximately five months.

- Installed capacity: 98.7MW
- Hub Height: 80 metres
- Maximum Blade Tip Height: 124 metres
- Swept area of each WTG: 1.5 acres; total swept area for the wind farm: 70.5 acres
- Total number of escorted truck journeys from Adelaide during construction: 350
- 7 km of high tension cables for rock-anchor footings
- 27 km of rock trenching for 33kV reticulation
- 5000 m3 of concrete
- 8000 ton of steel for towers
- 27 km of underground cable
- 18 km overhead 33kV line
- 110 ton weight of 120MVA transformer
- Total weight of cargo to be transported to site: 15000 tonnes
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- The first turbine was installed and commenced generation in March 2007. The final turbine was erected in March 2008.

